



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

PRELIMINARY ISSUE

D130-1048-141
Job Sheet 182059

Accounting Job RD17-1048-01

Part No: D130-1048-141

Job Qty: 1 ea

Part Name: EC130 Fwd Crosstube



Part Weight: 0 lbs

Status: Scheduled

Job Created: 8/16/18

Job Tracking No:

Due Date: 8/30/18

Created By: Marie Lajeunesse

Type: R+D

Description:

Note: D130-1048-141 REV. PRELIM-A7 IPP REV: A 18.07.19 NEW ISSUE DD VER: JFS

Ship Via:

POSITIVE RECALL

EFFECTIVE 10-1-2018

RELEASED 9-8-89 DATE 18-11-07

Priority: Medium

POSITIVE RECALL

EFFECTIVE 18-07-24 AUTH 11/5

RELEASED 9-8-89 DATE 18-11-07

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Start up Operation	1 Ea		8/30/18	0.00	0.00	Start Up Crosstubes-2		GP 2018-09-26
110	Crosstubes	1 pcs		8/30/18	0.00	1.00	Crosstubes-3		GP 2018-09-26
120	QC	1 pcs		8/30/18	0.00	0.00	QC15		
130	Outsource	1 pcs		8/30/18	0.00	0.00	Outsource2		CT 18-9-25
140	Packaging	1 pcs		8/30/18	0.00	0.00	Packaging2		SEP 27 2018
150	QC	1 pcs		8/30/18	0.00	0.00	QC6		18-09-25
160	Crosstubes	1 pcs		8/30/18	0.00	1.00	Crosstubes-3		GP 2018-09-26
170	QC	1 pcs		8/30/18	0.00	0.00	QC15		18-09-25
172	Outsource	1 pcs		8/30/18	0.00	0.00	Outsource2		18-11-05
174	Packaging	1 pcs		8/30/18	0.00	0.00	Packaging2		NOV 05 2018
176	QC	1 pcs		8/30/18	0.00	0.00	QC6		NOV 05 2018
180	HandFinish	1 pcs		8/30/18	0.00	0.33	HandFinish1		18-11-02
185	QC	1 pcs		8/30/18	0.00	0.00	QC7-5		18-11-06
190	SprayPaint	1 pcs		8/30/18	0.00	1.00	Spray Paint		NOV 07 2018
200	QC	1 pcs		8/30/18	0.00	0.00	QC14		18-11-07
210	Packaging	1 pcs		8/30/18	0.00	0.00	Packaging3-2		NOV 08 2018
220	QC21-SA	1 Ea		8/30/18	0.00	0.00	QC21		NOV 08 2018

Part Op 110 - BUFF AND REMOVE ALL MARK AS PER DWG

Descriptions: 130 - ISSUE P/O: 041120 NDT C OF C IS REQUIRED

160 - 1-Drill rivet holes in cuff using DT10428 as per DWG sections D-D and E-E. ***Use DT8550 as center support ***

2-Drill and ream holes sections B-B as per DWG using DT10436 3-Drill and ream holes sections C-C as per DWG using DT10436 4-Deburr as per DWG. 5-Grind tube lightly if required to remove any marks left from the drilling process.

172 - Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order

174 - Ensure copy of NDT results attached to work order.

180 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

185 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

190 - ***MASK PRIOR TO PRIME AND PAINT AS PER NOTE 9*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

1- PRIME INSIDE AND OUTSIDE PER QSI005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER)

BATCH: _____ 2- PAINT OUTSIDE SURFACE AS PER QSI005 4.2.2.4 (FLOAT SKIDTUBE PAINT)

BATCH: _____

202: Outsource: P0041620

CHGover See attachment

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D5609-1	EC130 Fwd Crosstube	1 Ea (1 ea)	100-Start up Operation	182093

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:



Container No: S112140



Part: D130-1048-141

Job No: 182059

Serial No/Batch: S112140

Revision: A7

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 813 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 09/27/18

Deviation

Work Order update only

ACTION		AGAINST DEPARTMENT/PROCESS							
Rework	☐	Skid-tube	☐	Cross tube	☐	Water Jet	☐	Engineering	☐
Scrap	☐	Machining	☐	Small Fab	☐	Prod. Eng. Coord.	☐	Quality	☐
Use-as-is	☐	Thermoforming	☐	Finishing	☐	Rec/Store/Packaging	☐	Other	☐
Improved	☐	Large Fab	☐	Composite	☐	Supplier	☐		
		QTY Effective :					MRB (QSI042) Approval		

Disposition	
	Completed By
	Lead hand / Supervisor Approval Verification
	QC / QA Coordinator Approval

Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐								
Misidentified	☐	Past Due	☐	OTHER :							

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Start up Operation	D5609-1	1	0	0

Part Specifications

Specifications could not be found.

Plex 9/24/18 2:40 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Specifications could not be found.



Container No: S112140



Part: D130-1048-141

Job No: 182059

Serial No/Batch: S112140

Revision: A6

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Plex 8/17/18 8:36 AM Dart.lajeunesse.marie

Date: 09/20/18

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

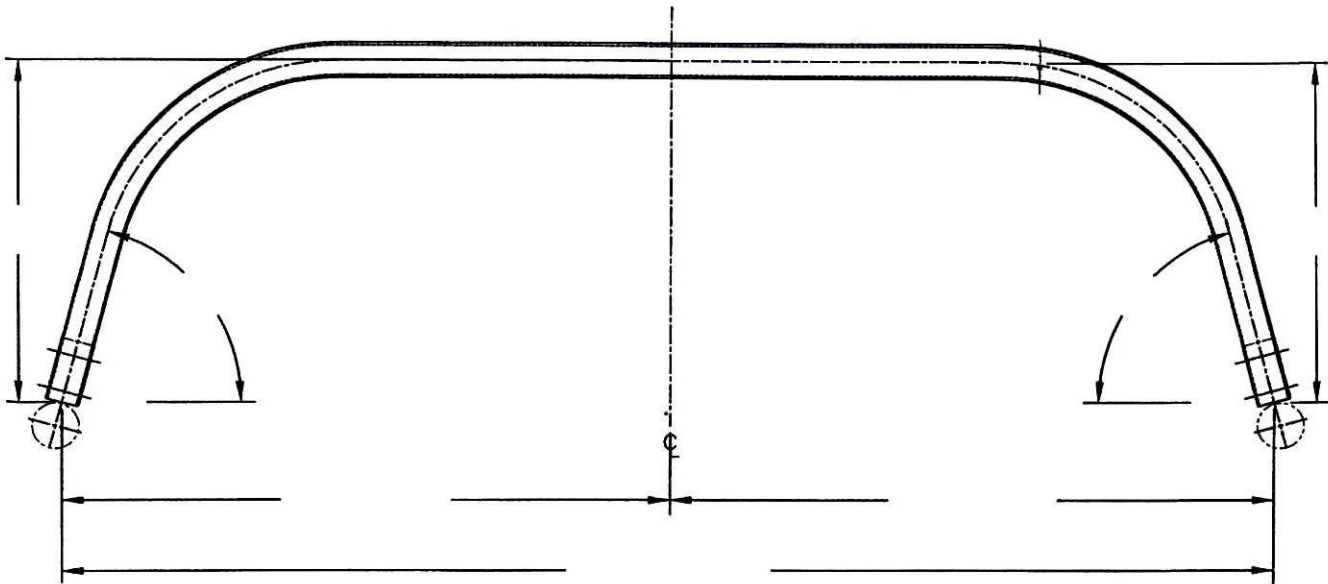
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD		Work Order: 182059
Description:		Part Number:
Inspection Dwg:	Rev:	Page 1 of 1

Required Dimension	Min	Max
Height		
1/2 Span		
Angle		
Total Span		
Bending Passes		
Crushing		



	Side A	Side B
Bending Passes		
Crushing		
Comments		

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A		New Issue		
B	06.09.19	Reformat; QC level revised	KJ/JM	
C	07.02.06	Reformat	KJ/JM	
D	12.02.15	Added bending passes and crushing	KJ	
E	12.03.07	Revised comments table	KJ	

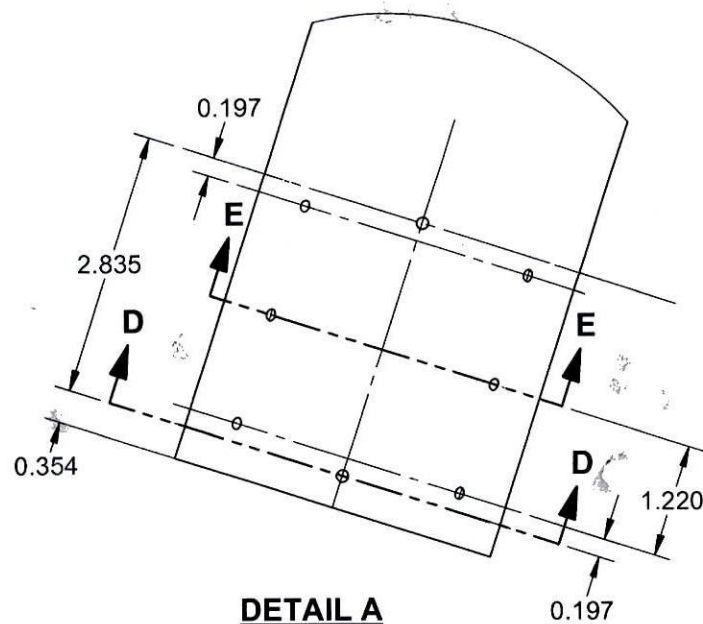
DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

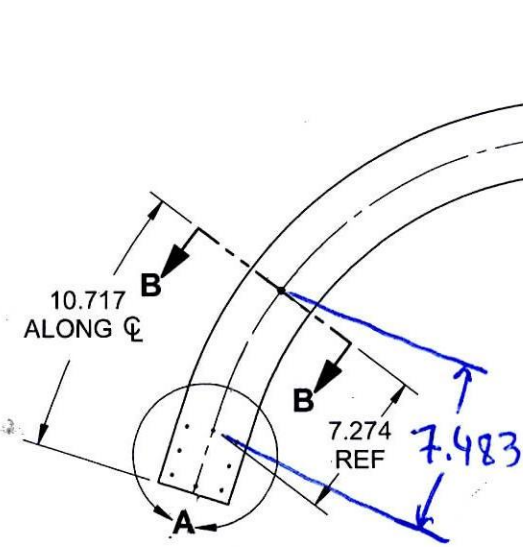
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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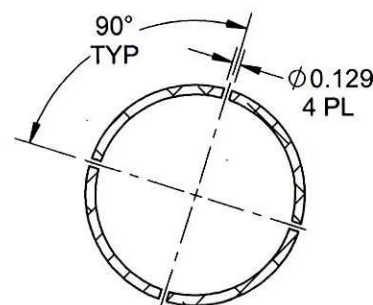


DETAIL A
SCALE 5X

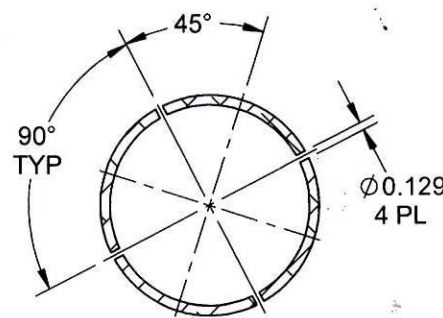


D130-1048-141 FWD X-TUBE (EC130)

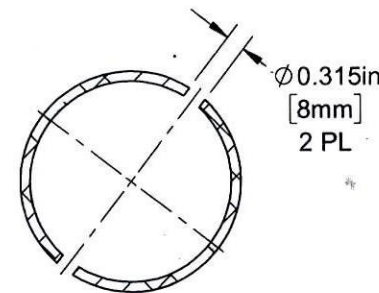
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 182059 MW
18-0924



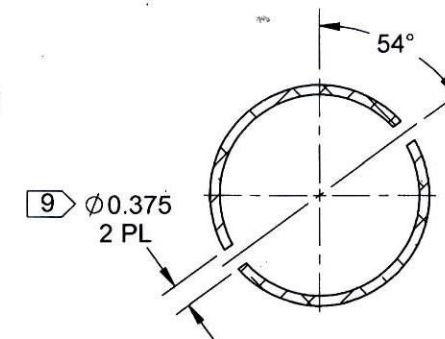
SECTION D-D
SCALE 0.75X
2 PL



SECTION E-E
SCALE 0.75X
3 PL



SECTION B-B
SCALE 3X



SECTION C-C
SCALE 3X

NOTES:

- 1) MATERIAL: MAKE FROM D5609-1
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER)
PAINT OUTSIDE PER DART QSI 005 4.2.2.4 (FLOAT SKIDTUBE PAINT)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: SCRIBE DART P/N "D130-1048-141" AND S/N PER DART QSI 044 6.4 (VIBRATING STYLUS) ON INSIDE OF CUFF
- 7) WEIGHT: 17.34 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE
- 9) MASK THESE HOLES PRIOR TO PRIME/PAINT
- 10) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038 PRIOR TO DRILLING.

PRELIMINARY ISSUE

A	NEW ISSUE	ZF	18.06.07
REV.	DESCRIPTION	BY	DATE
DESIGN	NO	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA	
DRAWN	ZF		
CHECKED	MW	DRAWING NO.	REV. A7
MFG. APPR.	JFS	D130-1048-141	SHEET 1 OF 1
APPROVED	NO	TITLE	SCALE
DE APPR.	CP	FWD X-TUBE (EC130)	NTS
DATE	18.06.07	COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

APPROVED



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041100**

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO041100
PO Date: 9/21/18
Due Date: 9/25/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	182067	D130-1048-141	EC130 Fwd Crosstube ISSUE P/O: _____ NDT C OF C IS REQUIRED	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
			1 X SEP 27 2018								
	182064		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182059		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182065		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							4	0	4		\$535.00

DAS
68
9-89

2	182415	D130-1048-042	EC130 Skidtube Assembly, RH Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
			1 X SEP 27 2018								
	182418		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							2	0	2		\$267.50

3	182412	D130-1048-041	EC130 Skidtube Assembly, LH Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
			1 X SEP 27 2018								
	182413		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							2	0	2		\$267.50

Grand Total: \$1,070.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/27/18 10:09 AM dart.tsimiklis.chrisoula

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO37535	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO041100
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:**CARRY OUT NDT ON:**

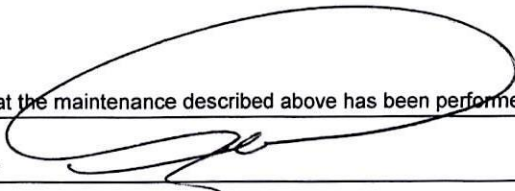
4 EC 130 FWD CROSSTUBES , P/N# D130-1048-141 , J/S# 182059 , 182064 , 182065 , 182067

2 EC 130 SKIDTUBE ASSY RH , P/N# D130-1048-042 , J/S# 182418 , 182419

2 EC 130 SKIDTUBE ASSY LH , P/N# D130-1048-041 , J/S# 182412 , 182413

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417 REV. 16						SEP 21 2018	 
NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							
<i>Description</i>	<i>Location</i>	<i>P/N</i>	<i>Qty</i>	<i>Batch</i>	<i>S/N Off</i>	<i>S/N On</i>	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: SEP 21 2018
Name: RAFIK MELIKIAN		



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041591**

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO041591
PO Date: 11/5/18
Due Date: 11/9/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:

Special Comments: please note po041568 was open an cancelfor the jobs same as po041591

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	181665	D350-748-103	AS350 / AS355 Stainless Steel Fwd Crosstube : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 ISSUE P/O TO SKY SERVICE:	Firmed	-	11/9/18	1 pcs	0 pcs	1 pcs	\$145.00/pcs	\$145.00
						1X NOV 05 2018					
2	185582	D130-1048-042	EC130 Skidtube Assembly, RH ISSUE P/O: Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order NDT C OF C IS REQUIRED	Firmed	-	11/9/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
						1X NOV 05 2018					
	185581			Firmed	-	11/9/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
						1X NOV 05 2018					
Sub Total:							2	0	2		\$267.50

Plex 11/5/18 1:00 PM dart.lavoie.chanta



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041591**

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	185578	D130-1048-041	EC130 Skidtube Assembly, LH ISSUE P/O: _____ Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order NDT C OF C IS REQUIRED	Firmed	-	11/9/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	185580		1 X NOV 05 2018	Firmed	-	11/9/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							2	0	2		\$267.50
4	182064	D130-1048-141	EC130 Fwd Crosstube *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** ISSUE P/O: _____ Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order NDT C OF C IS REQUIRED	Firmed	-	11/9/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182059	DAS 9 9-89	1 X NOV 05 2018	Firmed	-	11/9/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							2	0	2		\$267.50
5	182056	D130-1048-241	EC130 Aft Crosstube *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** ISSUE P/O: _____ Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order NDT C OF C IS REQUIRED	Firmed	-	11/9/18	1 pcs	0 pcs	1 pcs	\$75.00/pcs	\$75.00
	182057		1 X NOV 05 2018	Firmed	-	11/9/18	1 pcs	0 pcs	1 pcs	\$75.00/pcs	\$75.00
Sub Total:							2	0	2		\$150.00
Grand Total:										\$1,097.50	

Plex 11/5/18 1:00 PM dart.lavoie.chantal



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO041591

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 11/5/18 1:00 PM dart.lavoie.chantal

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO38034	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO041568 ✓
Descr:	PN:	S/N:	Qty: 1 <i>PO041591</i>
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	

Task: UNSCHEDULED	Sequence: 1
--------------------------	--------------------

Work Required:

CARRY OUT NDT (LIQUID PENETRANT CRACK TEST) ON THE FOLLOWING 5 CROSSTUBES AND 4 SKIDTUBES :

P/N: D130-1048-141 FWD CROSSTUBE

1- JOB SHEET# 182064 ✓ 2- JOB SHEET# 182059 *989 DAS*

P/N: D130-1048-241 AFT CROSSTUBE

3- JOB SHEET# 182056 ✓ 4- JOB SHEET# 182057 ✓

P/N: P/N: D350-748-103 FWD CROSSTUBE

5- JOB SHEET# 181665 ✓

P/N: P/N: D130-1048-041 EC130 SKIDTUBE LH

6- JOB SHEET# 185580 ✓ 7- JOB SHEET# 185578 ✓

P/N: P/N: D130-1048-042 EC130 SKIDTUBE RH

8- JOB SHEET# 185581 ✓ 9- JOB SHEET# 185582 ✓

Action Taken:	Date:	Initial/Stamp:
LIQUID PENETRANT INSPECTION CARRIED OUT ON ITEMS LISTED ABOVE (ITEMS 1-9) AS PER ASTM1417M-16 -NO CRACK FOUND. PEN.(ZL-56, MPO13600), DEV.(SKD-S2, MPO11715), CLEANER(SKC-S, MPO MPO19368)	<i>2 NOV 2018</i>	

Description	Location	P/N	Qty	Batch	S/N Off	S/N On

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp: 	Date: <i>2 NOV 2018</i>
Name: CHRISTIAN BRIEN		



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041620**

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

PO No: PO041620
PO Date: 11/6/18
Due Date: 11/7/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	182056	D130-1048-241	EC130 Aft Crosstube Issue P/O to Atelier Debosselage: _____ ***MASK PRIOR TO PRIME AND PAINT AS PER NOTE 9*** *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** 1- PRIME INSIDE AND OUTSIDE PER DWG NOTE2 (FLOAT SKIDTUBE PRIMER) 2- PAINT OUTSIDE SURFACE AS PER DWG NOTE2 (FLOAT SKIDTUBE PAINT)	Firmed	-	11/7/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
	182057			Firmed	-	11/7/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
Sub Total:							2	0	2		\$250.00

Plex 11/6/18 12:51 PM dart.tsimiklis.chrisoule



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
PO041620

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
2	182064	D130-1048-141	EC130 Fwd Crosstube Issue P/O to Atelier Debosselage: _____ ***MASK PRIOR TO PRIME AND PAINT AS PER NOTE g*** *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** 1- PRIME INSIDE AND OUTSIDE PER DWG NOTE2 (FLOAT SKIDTUBE PRIMER) 2- PAINT OUTSIDE SURFACE AS PER DWG NOTE2 (FLOAT SKIDTUBE PAINT)	Firmed	-	11/7/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
	182059			Firmed	-	11/7/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
Sub Total:							2	0	2		\$250.00
Grand Total:											\$500.00

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

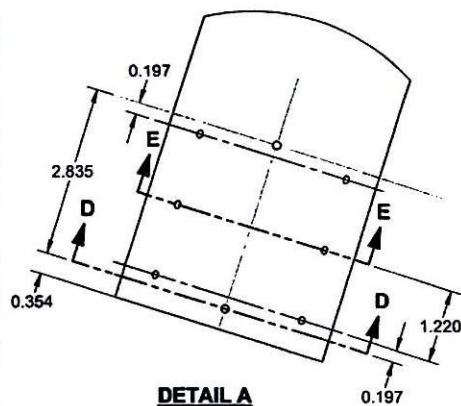
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

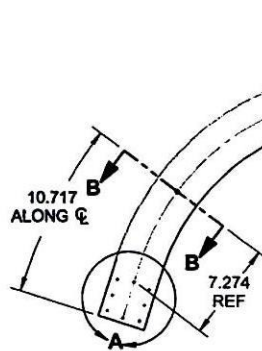
A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

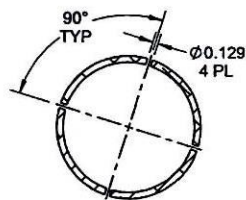
Plex 11/6/18 12:51 PM dart.tsimiklis.chrisoula



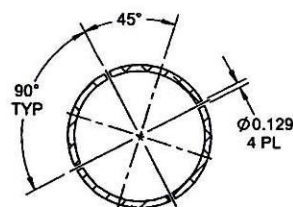
DETAIL A
SCALE 5X



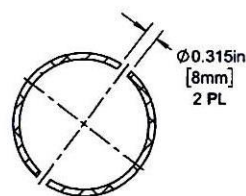
D130-1048-141 FWD X-TUBE (EC130)



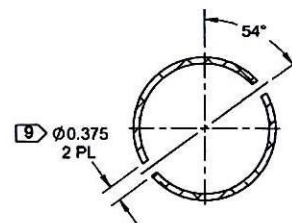
SECTION D-D
SCALE 0.75X
2 PL



SECTION E-E
SCALE 0.75X
3 PL



SECTION B-B
SCALE 3X



SECTION C-C
SCALE 3X

NOTES:

- 1) MATERIAL: MAKE FROM D5609-1
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER)
PAINT OUTSIDE PER DART QSI 005 4.2.2.4 (FLOAT SKIDTUBE PAINT)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: SCRIBE DART P/N "D130-1048-141" AND S/N PER DART QSI 044 6.4 (VIBRATING STYLUS) ON INSIDE OF CUFF
- 7) WEIGHT: 17.34 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE
- 9) MASK THESE HOLES PRIOR TO PRIME/PAINT
- 10) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038 PRIOR TO DRILLING.

RELEASED

2018 OCT 02
E & N 19-117

A		NEW ISSUE		ZF	18.06.07
REV.	DESCRIPTION			BY	DATE
DESIGN	NO	DART AEROSPACE LTD		REV. A	
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA		SHEET 1 OF 1	
CHECKED	MW	DRAWING NO.		SCALE	
MFG. APPR.	JFS	D130-1048-141		NTS	
APPROVED	NO	TITLE			
DE APPR.	CP	FWD X-TUBE (EC130)			
DATE	18.06.07				

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Part Number: D130-1048-141

[illegible]